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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

POLTORAK, PIOTR

ART UNIT	PAPER NUMBER
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2134

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/020,554

Applicant(s)

PHAM ET AL.

Examiner

Peter Poltorak

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-31 have been examined.

#### *Priority*

2. No claim for priority has been made in this application.

The effective filing date for the subject matter defined in the pending claims in this application 12/03/2001.

#### *Drawings*

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first and second network interface processor, and an array of media access processors including an assigned media access processor must be shown or the feature(s) canceled from the claim language. No new matter should be entered.
4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet

submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 23-24 and 29-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
6. Claims 23-24 and 29-30 recites that data is encrypted/compressed based on the storage target resource. However, the specification does not provides the teaching how the recited limitation is accomplished. Instead the specification suggests that data encryption/decryption is selected based on the type of operation that is requested (*The specification [97]: "Specifically, where the SCSI command 158 indicates that the media-level data is media read or write data, as opposed to status*

*or other data, the media-level data 160 is selectively processed by encryption, compression, or both*”).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2, 5-9, 16 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.
8. In claims 2, 5-9 and 16 the following lack antecedent basis:
  - a. Claim 2: “the dynamic state”,
  - b. Claim 5: “said shared state-data store”,
  - c. Claim 6: “the encryption”,
  - d. Claim 7: “the proxy transfer” and “the proxy determined destination”,
  - e. Claim 8: “second predetermined network data packets”,
  - f. Claim 9: “the coordination”
  - g. Claim 16: “the proxy transport.
9. The claim language uses terminology that is inconsistent with the specification and does not allow the examiner to clearly understand applicant’s invention or assess in what degree the claim language is relevant to the specification. Essentially terms used in the claim language are merely addressed in the abstract and touched upon in the summary of the invention, however, the terms are not actually defined enough to allow the examiner to understand the claimed invention. As a result, the examiner

is left guessing whether particular limitations are explained in the specification. In addition, throughout the claim language applicant uses terms (look below) that, (especially) due to the lack of consistency, make an invention even more cumbersome to understand.

10. For example, claim 4 recite: "said assigned media access processor inspect network media data packets to obtain said state-data". It is not clear how obtaining of state-data is accomplished.

11. The examiner makes an attempt to address the claim limitations as best understood but the claim language should be written so that the correlation between the invention and the claims is clear.

12. Several terms are used throughout the claim language and are not understood.

Terms such as "shared state-data", "a transaction protocol state-machine" etc. are used within the claim language but no clear explanation within the specification is offered. In fact the language used in the claim language does not seem to correspond closely to the specification making. It is not clear for example whether "state-data" refer to the data that correspond to a session data, to the state of a network or a particular processor that processes data or that there should be some other meaning of the term. Similarly it is not clear how applicant define a transaction protocol state-machine for example.

13. Another example of inconsistency between the claim language and the specification affects also determination of metes and bounds of the functionality of the cited objects. For example applicant recites an assigned media access processor

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operative to terminate a first network media access connection (claim 1). It is not clear whether how the capability of the processor is defined. Does the limitation refer to capability of "breaking" the connection, not responding to the connection or some other interpretation should be considered? As mentioned above, the examiner is not able to result ambiguity of this and many other features recited in the claim language due to the problem in understanding a correspondence between the specification and the claim language.

For purposes of further examination the terms are treated as best understood.

14. There is no article preceding "Second network data packets" in claim 8, line 2. It is not clear whether these are data packets differ from the "second network data packets" recited in claim 7 on pg. 46, line 4. If these are different packets, reciting "said first network data packets" used in claims 7 and 8 introduces inconsistency in the claim language. Clarification is required.
15. "Data storage packet" and "network data packet" are not understood. It is not clear, whether the "data storage packet" refers to the data that resulted from storage commands (see claim 23 a), the data that came from the data storage network, the data that is on the layer above the network data layer or something else. Similarly it is not clear whether network data packet refers to the network layer (e.g. TCP/IP), whether it is equivalent to the media-level data layer or some other understanding should be considered.

As a result the phrases: "a data storage packet encapsulated by said network data packet" in claim 22 and "locating within said data storage packet, selectively based on said storage command, media-level data" in claims 23 and 29 is not understood.

16. Claims 23-24 and 29-30 recites that data is encrypted/compressed based on the storage target resource. However, the specification in reference to Fig. 8 suggest that data encryption/decryption is selected based on the data itself (*The specification [97]: "Specifically, where the SCSI command 158 indicates that the media-level data is media read or write data, as opposed to status or other data, the media-level data 160 is selectively processed by encryption, compression, or both"*).

For purposes of further examination the phrase is treated as best understood.

17. The phrase: "maintains coordinated the state" in claim 9 is not understood. As a result "the coordination" in claim 9 is rejected as lacking antecedent basis (above).
18. Both of the "session connection data" in claim 19, lines 5 and 6 do not contain any preceding articles suggesting that "retrieved session connection data" is not (can't be) the same as "provided session connection data".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by *Badamo et al.* (U.S. Pub. No. 20020184487).



20. As per claim 1 *Badamo et al.* teach device 10 that handles data traffic between mobile subscribers via Radio Access Network (RAN) 14 and local resources (data storage etc.) 15 (*Fig. 1A, [52]*), the device 10 handling packets from traffic to and from the line cards array (LCs) 22 (*Fig. 3, [57]*).

Furthermore *Badamo et al.* teach a switch (FC) 20 that connects the LCs with an array of service cards (SC) 24 that provide packet traffic processing such as encryption/decryption and NAT (*[55], Fig. 3, [57]*). As shown in FIG. 2B one SC 24' may provide the ingress processing and another SC 24" may provide the egress processing (*[55]*).

This reads on an array of an array of media access processors including an assigned media access processor operative to terminate a first network media access connection relative to the first network and provides a second network media access connection relative to the second network as a proxy for said first network media access connection and a switch providing data paths between said first and second network interface processors and said array of media access processors, wherein said first network interface processor is operative to selectively route network data associated with said first network media access connection from said first network to said assigned media access processor.

21. Claims 11-12, 16-17, 22 and 26-27 are substantially equivalent to claim 1; therefore claims 11-12, 16-17, 22 and 26-27 are similarly rejected.

22. As per claims 2, 6-8, 13-15, 18-21, 23 service cards encapsulate and encrypts/decrypts packets, and provide NAT (*[55]*), data storage etc. 15 (*[52]*), and

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LC's and SC's array comprise plurality of processors (*Fig. 3*). *Badamo et al.* teach dynamically configured routing ([60]) and client network connections association with encrypted sessions ([64] and [86]).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Badamo et al.* (U.S. Pub. No. 20020184487) in view of *Chiu* (U.S. Patent No. 5931914).

24. *Badamo et al.* teach the scalable media access portal as discussed above.

*Badamo et al.* do not teach that the assigned media access processor implements a transaction protocol state-machine to maintain the second network media access connection in a predetermined correspondence with the first network media access connection.

*Chiu* teaches that the assigned media access processor implements a transaction protocol state-machine to maintain the second network media access connection in a predetermined correspondence with the first network media access connection (*Chiu, col. 1 lines 28-41*).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to configure the assigned media access processor to implement a transaction protocol state-machine to maintain the second network media access

connection in a predetermined correspondence with the first network media access connection as taught by *Chiu*. One of ordinary skill in the art would have been motivated to perform such a modification in order to make the communication more efficient.

25. Claims 22-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Clark* (*Tom Clark, "IP SANs: A guide to iSCSI, iFCP, and FCIP Protocols for Storage Area Networks", November 01, 2001, ISBN: 0-201-75277-8*).

26. *Clark* teaches iSCSI architecture (section 8.5, *Internet SCSI, Fig. 8-13*) employing iSCSI Servers and iSCSI disks. In section 4.2 *Clark* takes a closer look at SCSI environment and teach an initiator interacting with a target representing a single file server conducting I/O operations against externally attached SCSI targets (*Fig. 4-4 and 4-5 and associated description*). *Clark* teaches that the server operates in the IP environment (*providing SCSI commands over IP*).

The existence of the file server imply that there must be clients (requests from the clients that involve server and consequently the SCSI targets reads on "establishing a network connection route for network data packets provided from a first network through a network data packet processor to a second network").

*Fig. 4-5* illustrates interaction between the file server and the SCSI target wherein the data exchange is initiated by the file server's command, which points to the fact that the IP client/server communication requiring providing SCSI target data results in commands directed to the SCSI targets. This reads on "processing a network data packet provided through said network connection route to determine a storage

command contained within said network storage packet" and on "processing said network data packet to determine a storage target resource from a data storage packet encapsulated by said network data packet".

27. In Fig. 4-4 external SCSI comprise of plurality of LUNs and thus Commands contained within the network storage packet must be processed so that a storage target resource (LUN) could be determined. Similarly, there may be multiple target SCSI devices with different IP addresses and TCP Port numbers (*Fig. 8-15*). In order to send data the file server must first select the target.

This reads on first processing a network data packet provided through said network connection route to determine a storage command contained within said network storage packet, second processing said network data packet to determine a storage target resource from a data storage packet encapsulated by said network data packet; and filtering, selectively based on a determined correspondence between said storage command and said storage target resource, the transport of said network data packet from said network connection route.

*Clark* does not teach the step of compressing and encrypting the media-level data based on the commands within.

Official Notice is taken that it is old and well-known practice to compress and encrypt the data before storing it on the server. One of ordinary skill in the art at the time of applicant's invention would have been motivated to encrypt and/or compress data before storing the data on the server in order to save space and protect data confidentiality.

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28. Also, *Clark* does not teach the step of redirecting data.

Official Notice is taken that it is old and well-known practice to redirect data. There are many reasons for which one of ordinary skill in the art at the time of applicant's invention would have been motivated to redirect data, e.g. to receive and store data that the particular storage target resource may not have enough space, to implement load balancing etc.

### ***Conclusion***

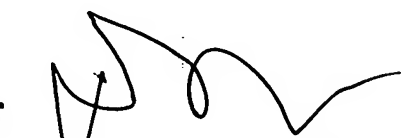
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571)272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (571) 272-3838. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
6/10/15

David Y. Jung  
Primary Examiner

  
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